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February 7, 2006

Mr. Paul Marshall
SDIP EIS/EIR Comments
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via e-mail smchale@mp.usbr.gov,

Re: Comments on Public Review Draft of the South Delta Improvements Program Draft
Environmental Impact Statement/Environment Impact Report (DEIS/R) of the Department of Water
Resources (DWR) and the US Bureau of Reclamation (BOR) (released November 10, 2005)

Mr. Marshall and Ms. McHale:

The Planning and Conservation League (PCL) submits the following comments on the Public
Review of the South Delta Improvements Program Draft Environmental Impact
Statement/Environment Impact Report (DEIS/R) prepared by the Department of Water Resources
(DWR) and the US Bureau of Reclamation (BOR) (released November 10, 2005)
<http://sdip.water.ca.gov/documents/vol-1/vol-1-eir.html>.

PCL commends DWR and the Bureau for acknowledging the need to address water quality and
fisheries impacts of the SWP and CVP. PCL appreciates that DWR and BOR acknowledge that a
full EIR/S is required to address the serious impacts associated with the proposed SDIP.

However, we are disappointed in the limited scope of DWR's and BOR's analysis. As the following
comments will explain in detail, the current DEIS/R represents an enormous missed opportunity, for
it indicates that DWR and the BOR remain determined, notwithstanding their recent decision to
delay formal approval of increased pumping, to proceed with pumping increases without considering
any other options.



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That tunnel-vision approach is unnecessary. As PCL's comments will explain in detail, DWR's own California Water Plan 2005 clearly indicates that California has no need for increased South Delta pumping. South-of-Delta demand could *decrease* dramatically, even as California's population grows, with implementation of feasible and cost-effective conservation and recycling technologies. Even under current trends, DWR projects a net decrease in south-of-delta water demand. Other independent studies have concluded that demand reductions could be significantly greater than estimated by DWR, and that conservation could provide water more cheaply and far more reliably than south Delta pumping increases.

DWR's tunnel vision approach is also unfortunate, for reduced Delta pumping would bring extraordinary benefits to the State of California. For example, reduced delta pumping would:

- **Improve water quality.** Water quality in the Bay-Delta and San Joaquin River chronically fails to meet state and federal standards. These violations create health risks for people and wildlife, increase water treatment costs and lower drinking water quality, and require taxpayer money to be spent on ecological restoration projects. Export pumping exacerbates those problems by sucking saltwater into the Delta and increasing pollutant inflows from upstream areas. Decreasing exports would be a less expensive way to reduce those problems.
- **Protect fish and wildlife.** Numerous Delta-dependent wildlife species, including several types of salmon, are threatened or endangered, and several fisheries populations are currently collapsing. Export pumping is a primary cause of those species' dire straits, and reducing pumping would help recover those populations—and ensure compliance with federal and state law.
- **Increase water supply reliability.** Partly because of the Bay-Delta's poor environmental condition, water deliveries have been unreliable for years. When violations of environmental standards and laws threaten or occur, as they often do, the pumps must temporarily slow down or be turned off. Reducing environmental stresses on the Delta by reducing pumping could vastly increase the predictability and reliability of pumping by improving ecological resiliency and avoiding these crises.
- **Reduce energy consumption and greenhouse gases production.** Delivering water from the Bay-Delta is an energy-intensive exercise, particularly if that water then must also be pumped over the Tehachapi Mountains to Southern California. The SWP is already a net energy consumer and is the largest single consumer of energy in California. Energy production results in greenhouse gases emissions, exacerbating climate change impacts to California. Reducing Delta dependence, and substituting greater use of conservation, recycling, and local supplies would vastly reduce the amount of energy California spends and greenhouse gases produced delivering water.



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- **Reduce California's vulnerability to earthquakes and floods.** Increasing Bay-Delta exports will increase California's dependence upon Bay-Delta exports, for demand is likely to adjust to supply. That increased dependence is shortsighted, however, for an earthquake or serious flood could limit or even eliminate California's ability to deliver water through the Bay-Delta. Reducing Bay-Delta deliveries and substituting conservation or other less vulnerable supplies will increase California's preparedness for the next earthquake.
- **Save Money.** For the federal and state governments, Bay-Delta diversions are financial losers. Federal water recipients are enormously subsidized and state water recipients, while they have paid a greater share for the infrastructure costs for their water, do not pay the costs of providing environmental mitigation for the deliveries they receive. That burden instead falls to the taxpayers, and though taxpayers have spent millions, mitigation efforts still have been under funded and often ineffective. Reducing deliveries may be the most effective way to reduce taxpayers' bills. Additionally, despite the subsidies they receive on Bay-Delta water, many local entities still could provide water more economically through conservation and recycling. Reducing Delta exports thus makes financial sense.

But the DEIS/R does not evaluate that option. Neither does it even consider any option that holds pumping steady. In short, the DEIS/R does not even consider the most obvious of environmentally-beneficial alternatives

That tunnel-vision approach is not merely misguided; it also is illegal. NEPA and CEQA both require consideration of alternatives designed to avoid environmental harms. Without substantial revision, the DEIS/R will not fulfill that mandate.

In the comments that follow, PCL will explain in detail that central problem, as well as several other areas in which the analyses must be substantially improved before they will be sufficient for the public to review as a DEIS/R. It would be impermissible to insert all of this necessary information in a final EIS/R without allowing the public to review the information in draft form. Due to the inadequacies of the current DEIS/R it must be withdrawn.

The DEIS/R fails to properly divide the multiple components of the project

The Planning and Conservation League is encouraged that DWR and BOR have stated they are not formally announcing plans to increase allowable export levels from the Delta until after the Pelagic Organism Decline (POD) studies are complete. PCL believes that the current problems in the Bay-Delta Estuary require DWR to proceed with caution.



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However, PCL is deeply concerned, as it has explained to DWR repeatedly, that DWR/BOR's division of the project into multiple phases is largely illusory. While DWR and BOR are promising two separate approvals, they have prepared one DEIS/R for what both clearly define as one unified project. And while formal second-stage decision may in theory be delayed, the DEIS/R indicates in multiple ways that the actual decision already has been made.

First, the DEIS/R defines the project objectives and purpose as "...increasing the maximum permitted level of diversion through the existing intake gates at CCF to 8,500 cfs" (ES-3). This overly narrow definition leaves no room to increase water delivery reliability through means other than increased diversions at CCF, as might be proposed by the POD studies. Similarly, the DEIS/R specifically relied on the assumption that deliveries must be increased to exclude from analysis any first-stage alternative that did not involve pumping increases, even though an alternative without pumping increases would probably be the best way of achieving the water quality and fisheries improvements the first project stage is theoretically intended to provide.

Second, other than in the "No Action Alternative" the DEIS/R fails to examine the operable barriers or any measures to improve water quality and fisheries conditions at 6,680 cfs, the current rate of allowed pumping (see attached email from Paul Marshall to Mindy McIntyre dated 2/1/2006). Therefore the public is unable to ascertain how these projects will impact the environment if DWR/BOR decides not to increase allowable export levels to 8,500 cfs. In essence, the DEIS/R does not analyze a scenario under which 8,500 cfs is not chosen as the preferred alternative.

If DWR and BOR truly wish to follow through on their stated commitment to phased decision-making, the analysis in this DEIS/R cannot assume that pumping will increase. DWR must consider alternative ways of improving water quality and fisheries conditions even if they do not involve increased pumping; must re-defined the project purpose so that it does not mandate increased pumping; and must analyze the impacts and benefits of the first-stage alternatives without assuming increased pumping.

The DEIS/R defines an unreasonably narrow project purpose

A properly prepared EIR/S should define the purpose of a project in a non-tautological manner, and not define the purpose so narrowly that no alternatives can be considered. Stating that the project purpose is improving water supply reliability, water quality, or environmental restoration is would be appropriate, but defining the project purpose as building operable barriers and allowing increased pumping is not.

The DEIS/R defines unreasonably narrow project purpose which has determined the result. The DEIS/R states:



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DWR and Reclamation have, therefore, identified the following project objectives and purpose:

- Reduce the movement of San Joaquin River watershed Central Valley fall-/late Fall-run juvenile Chinook salmon into the south Delta via Old River
- Maintain adequate water levels and, through improved circulation, water quality available for agricultural diversions in the south Delta, downstream of the head of Old River; and
- Increase water deliveries and delivery reliability for SWP and CVP water contractors south of the Delta and provide opportunities to convey water for fish and wildlife purposes by increasing the maximum permitted level of diversion through the existing intake gates at CCF to 8,500 cfs. (DEIS/R Executive Summary 2)

The first two purposes could be significantly improved by simply stating that the project purpose is to increase water quality and fisheries conditions in the South Delta, since those are, or should be, the underlying project goals. Such a changed purpose would allow DWR and BOR to evaluate whether other infrastructural or operations changes would accomplish those goals with fewer financial costs and environmental impacts.

The third purpose is absurdly narrow. Rather than defining an appropriate project purpose, such as increased water supply reliability, the DEIR defines a purpose divorced from functional goals, and that as written predetermines the outcome and inappropriately excludes almost any alternative. As written the DEIS/R project purpose requires an increase in the amount and the rate of water exported from the Bay Delta Estuary. Such a narrow project purpose does not meet the required scope of CEQA and NEPA.

DWR and BOR inappropriately excluded alternatives during the scoping period

During the scoping period, DWR stated that the SDIP project was part of the CALFED program and the SDIP EIR would therefore tier from the CALFED Programmatic ROD. Several public commenters requested that DWR analyze alternatives for increase water supply reliability that would not require increased export capacity or increase water exports from the Bay Delta Estuary. (See SDIP public scoping comments meeting summaries

http://sdip.water.ca.gov/public_outreach/pub_doc/scoping_summary.htm and public comments http://sdip.water.ca.gov/public_outreach/pub_doc/scope_catalog.htm that we submit by reference).

Commenters suggested decreased exports, water conservation, water recycling and implementation of other regional water management options. DWR responded that these suggested alternatives were



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analyzed in the CALFED Programmatic EIR/S, and that therefore the suggested alternatives would not be analyzed in the project specific SDIP EIR/S.

The DEIS/R now states, “This SDIP EIR/EIS stands alone, and includes an independently developed analysis of the impacts of the SDIP, including the direct, indirect and cumulative impacts, alternatives, and avoidance/mitigation measures” (DEIS/R, page 1-8). This statement confirms that the DEIS/R does not tier from the CALFED Programmatic EIR/S as indicated by DWR and BOR during the scoping period.

DWR therefore cannot have it both ways; if the DEIS/R is to stand alone, its process of screening alternatives also must stand alone, and it cannot tier from the CALFED EIR/S’s alternatives analysis. This change from tiering to an independent EIR requires that those alternatives that were rejected during scoping must now be addressed.

Under CEQA requirements, a lead agency, DWR in this case, that fails to analyze the environmental consequences of a proposed project raised during the scoping process has failed to comply with CEQA. (See *Sierra Club v. State Board of Forestry* (1994) 7 Cal. 4th 1215).

In addition, recent events have undermined any basis for tiering from the CALFED EIS/R’s alternatives screening. For instance, the CALFED agencies have recommended removal of water conservation and other such regional management strategies from the CALFED program. As a result, these alternatives are no longer being implemented as envisioned in the original CALFED environmental documents. Furthermore, the current collapse of the Bay-Delta pelagic fisheries was not analyzed in the CALFED EIS/R.

It is appropriate that during the scoping period DWR and BOR implied that the SDIP would be implemented as part of the CALFED programmatic EIR, and then subsequently issue a DEIS/R as a stand alone project. It is also inappropriate for this DEIS/R to exclude water supply reliability, water quality and ecosystem restoration alternatives rejected due DWR and BOR’s implied reliance on a programmatic document that is not in fact the basis for the DEIS/R. A new scoping process based on development of a stand alone EIR/S must be initiated, should this project move forward.

The DEIS/R inappropriately relies on the CALFED Programmatic EIR baseline

During the scoping period for this DEIS/R, Mr. Paul Marshall of DWR stated that the baseline for the DEIS/R would be the same baseline included in the CALFED Programmatic EIR/S. But if this is a stand-alone DEIS/R, it needs a stand-alone baseline, and cannot simply incorporate the baseline of a different, outdated EIS/R completed over five years ago. It is inappropriate to use the baseline of the CALFED ROD for this DEIS/R, which DWR has stated is not tiered from the CALFED ROD.



The DEIR/S inappropriately assumes full implementation of the Monterey Amendments

The DEIR/S assumes that the Monterey Amendments have been finalized and will be implemented without change into the future. While these amendments are in effect on an interim basis pursuant to the DWR settlement with the Planning and Conservation League and the accompanying court order, DWR has yet to complete its environmental review of these amendments or make its new project decision. It is inappropriate for this DEIS/R to assume that DWR has made a decision on long-term implementation of the Monterey Amendments before DWR has completed the Monterey Plus EIR and issued its Notice of Determination. Accordingly, if DWR and BOR decide to move forward with the SDIP, the DEIS/R must analyze all alternatives under both pre-Monterey rules and operations, and under the rules and operations specified by the Monterey Amendments.

The DEIS/R contains an incomplete analysis of project alternatives

The DEIS/R analyzes three operational alternatives in conjunction with three scenarios for operable barrier locations and operations. The analysis of these alternatives is inadequate and incomplete. The DEIS/R states that an increase to 8,500 cfs is necessary to increase reliability of exports. However, while the DEIS/R identifies an increase in maximum delivery capability, the DEIS/R fails to provide an analysis of the effect on reliability from such actions.

The Department of Water Resources' Draft 2005 State Water Project Delivery Reliability Report (Reliability Report) estimates that as State Water Project (SWP) water deliveries increase, water reliability actually decreases.¹

According to DWR's analysis, the SWP cannot reliably deliver higher levels of water. For instance, according to the Reliability Report the SWP is estimated to be capable of delivering at least 1.2 maf about 90 percent of the time, while SWP deliveries of around 3 maf are only reliable in less than 65 percent of years. The DEIS/R fails to analyze how increasing water export affects the reliability of actual SWP deliveries.

In fact, the reliability effects will be greater than DWR acknowledged. Existing pumping levels are a primary cause of the Bay-Delta's chronic violations of environmental standards and laws, and those violations in turn reduce reliability. By reducing overall stresses on the system, decreased pumping could avoid many of those actual or threatened violations, ultimately increasing the

¹PCL has many criticisms on the reliability analysis, which it has explained in detail in past comments, but this particular observation is exactly right.



reliability with which the SWP and CVP deliver water. Increased pumping, by contrast, will increase environmental strains, increasing the frequency with which the pumps must slow or be shut down. In short, allowing higher pumping rates could ultimately decrease the predictability of water deliveries.

A simple analogy can explain the problem. A business could try to increase salaries to retain qualified staff. However, if they raised salaries more than their income would allow, their business would be jeopardized and their retention of qualified staff would actually be less reliable.

The DEIS/R should analyze this problem, for it could undermine the utility of the proposed changes. That analysis, however, is not present.

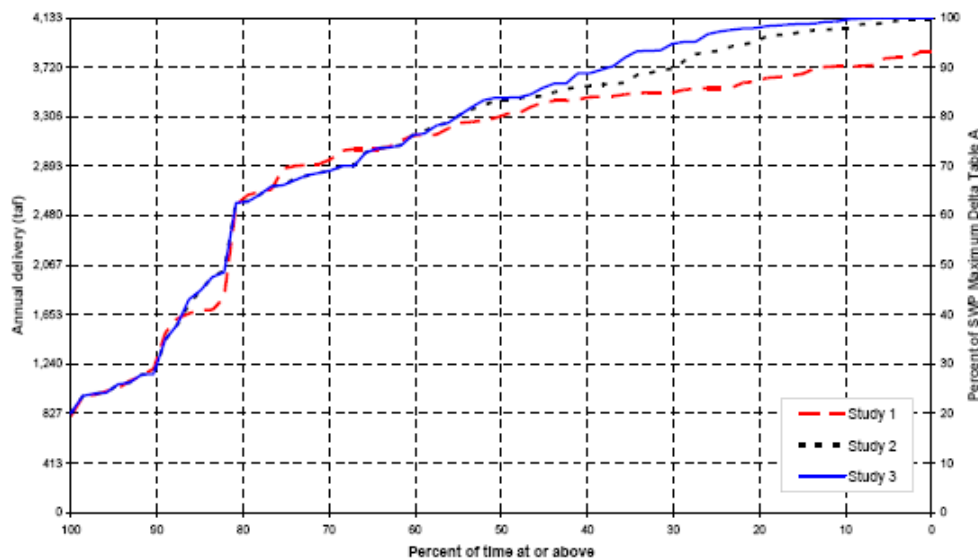


Figure B-1 SWP Delta Table A delivery probability for studies 1, 2 and 3

(Above figures are from the Draft 2005 State Water Project Delivery Reliability Report page 57.)

The DEIS/R relies on an inappropriate analysis of need for the SDIP

The DEIS/R cites water demand analysis from Bulletin 160-98 to justify the need for additional water exports south of the Bay Delta Estuary. However, DWR's Water Plan Update 2005 projected that under 'Current Trends Continued' water demands statewide and south of the Bay Delta Estuary actually decrease in 2030, even with accounting for water use of 12 million more residents. Furthermore, the 2005 Water Plan provides a feasible scenario under 'Less Resources Intensive'



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assumptions that indicates that water use statewide could decrease by up to 500 thousand acre feet, even without additional water conservation efforts taken by water agencies in California. Strikingly, the greatest reductions in demand will be located in exactly the areas to be served by SDIP's increased pumping.

The figures included below were taken from the California Water Plan Update documents. The first figure presents data indicating that the net South of Delta demands could decrease in both the Current Trends Continued and the Less Resources Insensitive scenarios. The second figure reports the estimated net statewide demand changes under all three scenarios. The second figure indicates that statewide, demands will decrease in both the Current Trends Continued and the Less Resources Intensive scenarios.²

In addition to DWR's own Water Plan Update 2005, the recent Pacific Institute report, *California Water 2030: an efficient future* determined that it is feasible for total water use in California to decrease by as much as 20 percent by 2030.

Additionally, as part of its ongoing San Joaquin Drain environmental studies, BOR is considering the option of retiring huge amounts of salinity-impacted agricultural land in the San Joaquin Valley. Many land areas served by DWR also suffer salinity and drainage problems, and retirement of these lands similarly could cause enormous reductions in south-of-Delta water demands. Such reductions would meet the legitimate objectives of fisheries and water quality improvements.

These studies indicate that, despite the DEIS/R assertion that there are unmet needs south of the Delta, increased exports from the Bay Delta Estuary are unnecessary. In fact, the water demand data from DWR's Water Plan Update 2005 and the Pacific Institute report demonstrates that exports from the Bay Delta Estuary could actually decrease to match decreased demands.

Yet the DEIS/R does not even acknowledge these studies. It is inappropriate and misleading that DWR based its analysis of project need on outdated assumptions about South-of-Delta demand, yet omitted from this DEIS/R its most recent information on water demand trends.

² The net statewide demands figure from the California Water Plan Update includes a note that demand numbers do not include 1 to 2 million acre feet of water 'needed' to meet groundwater overdraft. However, the 1 to 2 million acre feet of groundwater overdraft was based on decades old data, and has never actually been verified by DWR or any other agency. DWR's California Groundwater Bulletin 118-05 states that a "comprehensive assessment of overdraft in the State's basins has not been conducted since Bulletin 118-80" (Bulletin 118-05 page 2). The unverified estimate does not take into account the many groundwater recharge programs that have helped communities address overdraft problems regionally. In addition, the SDIP DEIS/R does not attempt to address groundwater overdraft.

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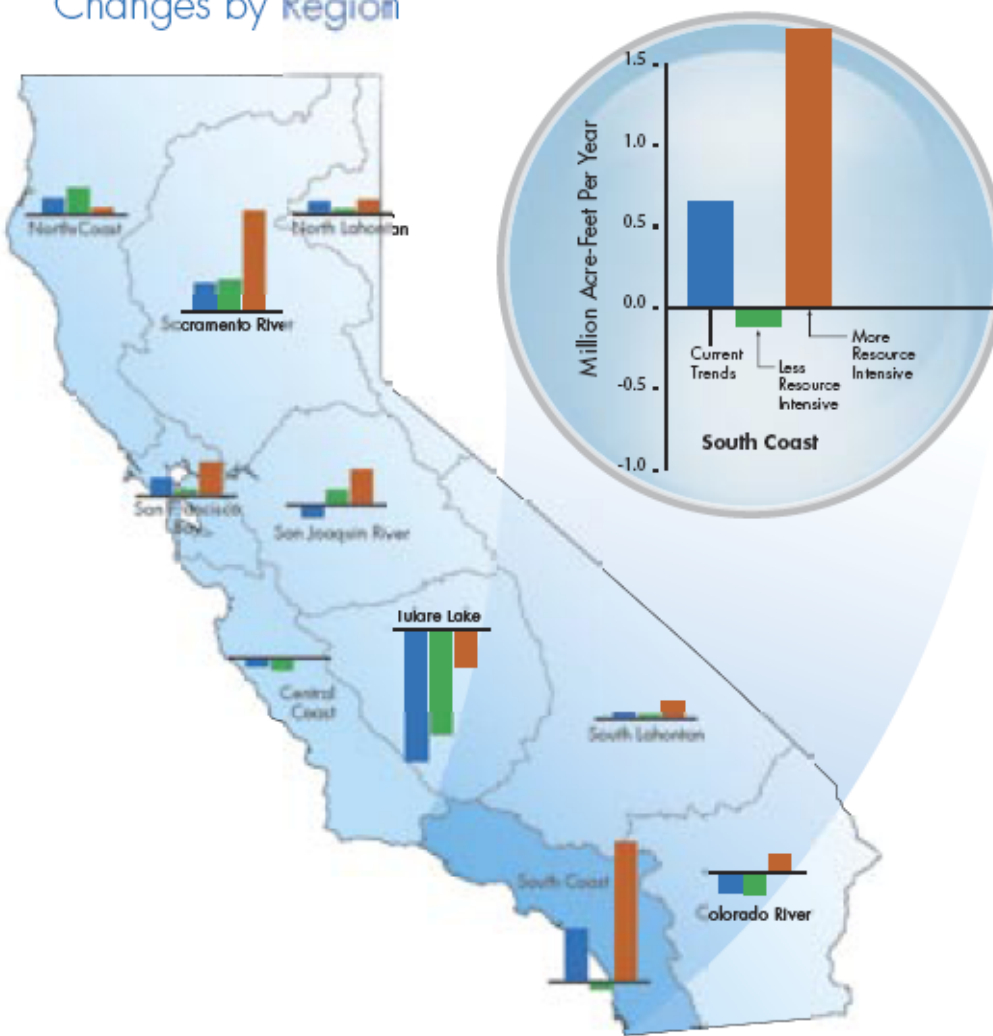


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2030 Water Demand Changes by Scei

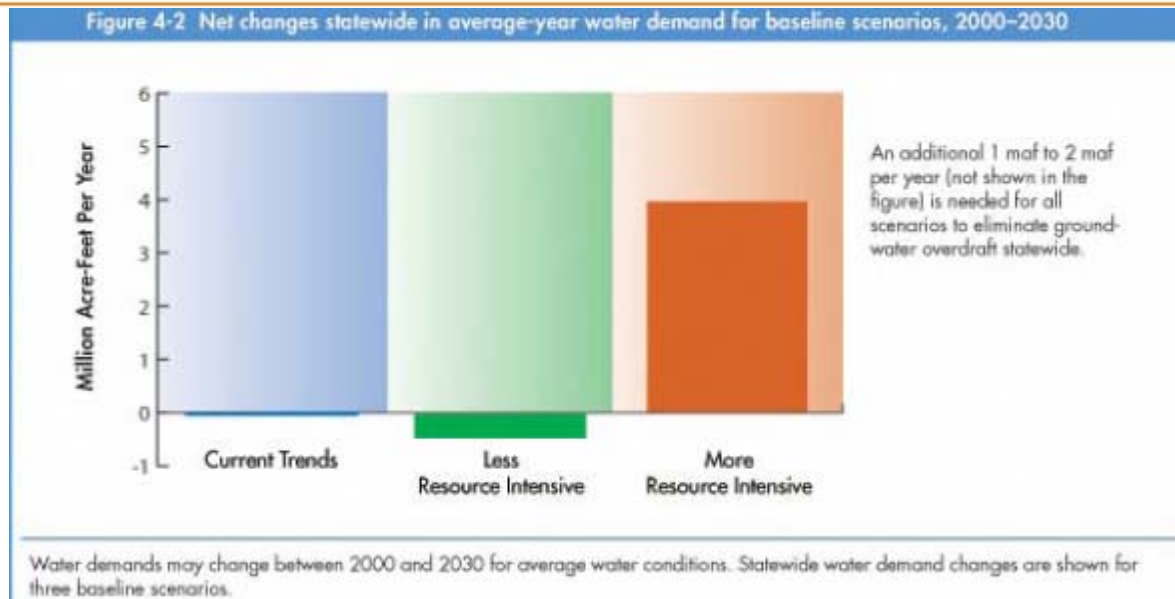
Changes by Region



<http://www.waterplan.water.ca.gov/docs/cwpu2005/cwphighlights/highlights.pdf> page 6



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[http://www.waterplan.water.ca.gov/docs/meeting_materials/ac/12.09.05/Changes_to_PRD_Slides_\(12-08-2005\).pdf](http://www.waterplan.water.ca.gov/docs/meeting_materials/ac/12.09.05/Changes_to_PRD_Slides_(12-08-2005).pdf)

The DEIS/R analyzes an unreasonable range of alternatives:

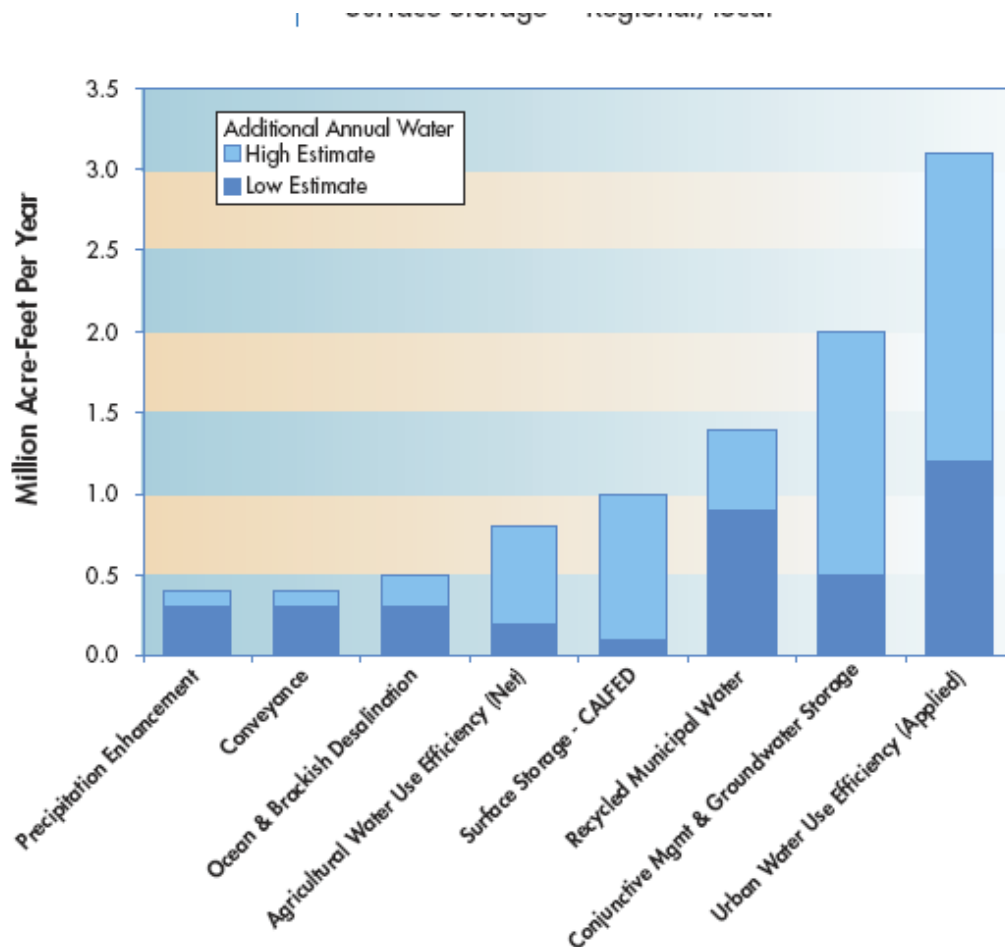
Under the requirements of CEQA and NEPA a DEIR/S must analyze a reasonable range of project alternatives that mitigate or avoid environmental harm.

The SDIP DEIS/R fails to meet these requirements. The DEIS/R analyzes an unreasonably narrow set of alternatives, all of which, other than the no-project alternative, involve increasing water exports and pumping capacity from the Bay Delta Estuary and installing operable barriers. No other feasible or less environmentally damaging alternatives capable of achieving the purposes of improving water quality, contributing to environmental restoration and increasing water supply reliability were analyzed in this DEIS/R.

Yet, such alternatives clearly do exist, as is illustrated by DWR's own California Water Plan Update (<http://www.waterplan.water.ca.gov/docs/cwpu2005/cwphighlights/highlights.pdf>), the Pacific Institute's *Waste Not, Want Not* and the *Investment Strategy for California Water*, November 18, 2004. These alternatives must be addressed by a proper EIS/EIR. According to the figure below taken from the Water Plan Update, there is a potential to achieve 3.1 million acre feet of functionally new water supply from urban water use efficiency and an additional 1.4 maf of water from water recycling. With a potential of 4.4 maf, these two options alone would provide more water if implemented, than the contracted annual yield of the SWP, and much greater increase in water supplies and water supply reliability than the 119 to 290 taf potential of the alternatives included in



the DEIS/R. Yet the SDIP EIR fails to analyze these alternatives in conjunction with decreased exports from the Bay Delta Estuary.



From the Water Plan Update 2005 page 16

<http://www.waterplan.water.ca.gov/docs/cwpu2005/cwphighlights/highlights.pdf>

As explained above, the draft Reliability Report issued by DWR in November 2005 estimated that the reliability of water deliveries from the SWP decreases as quantity of deliveries increases. Reliability of 1.2 maf in deliveries, for instance is 90 percent, while reliability falls to around just 50 percent when project deliveries reach 3.3 maf (see figure from Reliability Report above).

It follows that water reliability would be more effectively increased by decreasing contractor reliance on SWP imports and developing reliable alternative local water supplies through water



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management strategies identified in the State Water Plan Update rather than the currently-proposed alternatives, all of which would increase contractor reliance on high levels of SWP deliveries.

As with the operational component, the DEIR fails to analyze an adequate range of alternatives for the physical component. The reported purpose/objective for the DEIR physical component, or the operable barriers, is to address water level and quality impacts, as well as impacts to salmon from the operation of the SWP and CVP. The DEIR identifies flow changes resulting from CVP and SWP operations as the cause of salmon losses and water quality problems for the South Delta farmers. The DEIR states:

- Under natural conditions, about half the flow in the San Joaquin River flowed down Old River. The operations of the SWP and CVP export facilities in the south Delta can change flow patterns in the local channels. These factors can cause migrating San Joaquin River fall-/late fall-run Chinook salmon, a candidate for listing under the federal Endangered Species Act, to move into the south Delta, primarily through Old River where fish mortality increases due to predators and higher levels of exposure to export facilities and agricultural diversions. Keeping fall-/late fall-run Chinook salmon in the main channel of the San Joaquin River until they reach the central Delta may increase survival.
- Local South Delta water users downstream of the head of Old River are affected by water quality and water levels at each intake location. Water levels are influenced by many factors, one of which is diversions in the south Delta by the SWP and the CVP. In addition, there are opportunities to improve circulation and therefore water quality in the south Delta.

However, the DEIS/R fails to analyze how reduced exports from the SWP and CVP could reduce impacts to San Joaquin River fall-/late fall-run Chinook salmon and the South Delta farmers. In fact, all alternatives included in the DEIR actually decrease water quality for other Delta municipal water users, thus creating a significant redirected impact. In addition, the analysis of the barrier at Old River does not address whether fish survival will increase due to barrier operations. When operational components of the DEIR are implemented, it is likely that many of the San Joaquin River fall-/late fall-run Chinook salmon that have been directed to the main channel will be pulled back into the South Delta due to the increased pumping.

Two of the feasible and beneficial alternatives that meet the project purposes of improving water quality, improving conditions for fisheries and increasing water supply reliability that should be analyzed in the DEIS/R are discussed below.

Central Valley Land Retirement Alternative:



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The SDIP DEIS/R fails to explore an alternative that improves water quality and fish conditions while increasing the available supplies of water for human use and the environment through retirement of drainage impaired land in the Central Valley.

According to the 2000 San Joaquin Valley Drainage Monitoring Program Report, there are 1,361,000 total acres of “present and potential drainage problems” where the water table is between 0-20 feet of the ground surface. This report most likely underestimates the total area because the monitoring program stopped monitoring drainage in the Northern Area in 1979. In fact, as part of its environmental review of the proposed San Joaquin Drain, BOR already has considered retirement of thousands of acres served by its San Joaquin unit.

Retiring those lands would bring immense benefits to the South Delta. Agricultural return flows are the primary source of pollutants in the San Joaquin River and South Delta, and retiring those lands would minimize the amount of salt, selenium, and pesticide-laden return flow currently entering the river and Delta. Additionally, retiring those lands would reduce BOR’s already-enormous task of finding a place to dispose of the polluted groundwater now sitting beneath many of those impacted lands, and would reduce the extent to which disposing that water threatens the Bay-Delta. *See Firebaugh Canal Co. v. United States*, 203 F.3d 568, 571 (9th Cir. 2000); United States Geological Survey, *Forecasting Selenium Discharges to the San Francisco Bay-Delta Estuary: Ecological Effects of a Proposed San Luis Drain Extension*, Open Report 00-416 (2000), available at pubs.usgs.gov/of/ofr00-416/.

The DEIS/R must explore the actual acreage available for retirement, acre feet of water that could be saved, cost, and environmental impacts of such an alternative. It must also describe how the rights to the water previously used for irrigation would be properly transferred to ensure that the water is used for environmental purposes and to reduce the impacts of the operations of the SWP and CVP, as is the purpose of the project. And it must consider the cumulative impact of the San Joaquin drain project and other related projects in combination with the SDIP structural and operational projects.

San Joaquin River Restoration:

The DEIS/R also fails to include an alternative that analyzes San Joaquin River Restoration. Increased flows entering the South Delta from a restored San Joaquin River could significantly improve water quality. Such an alternative could substantially improve Delta water quality without the installation of additional dam or dam-like devices in the Delta. Following the United States District Court’s recent decision in *NRDC v. Patterson*, such restoration will be legally required, yet the DEIS/R does not analyze the ways in which that restoration could also accomplish some of the underlying goals of the SDIP project.



The description of these alternatives must show in language that the public can easily understand how the decreased pumping alternatives will reduce the power consumption of SWP and CVP operations and the financial effects of this decrease in energy demand.

The failure to analyze a reasonable range of alternative to the physical components of the DEIS/R requires DWR and the BOR withdraw the DEIS/R. Any subsequent DEIS/R should analyze a more reasonable range of alternatives that would more effectively reduce impacts of the SWP and CVP to fisheries and farmers.

The DEIS/R inappropriately identifies increased funding of the Environmental Water Account (EWA) as the sole mitigation for its Operational Component.

Despite the lack of documented success with the Environmental Water Account (EWA), the SDIP DEIS/R relies on the EWA as its sole mitigation for its Operational Component:

“An expanded Environmental Water Account (EWA) program as described in the CVP/SWP Operation Criteria and Plan (OCAP), or the implementation of an avoidance-and-crediting system augmenting the current EWA program, would be implemented to avoid diversion effects on fish resulting from implementing the Stage 2 decision. Therefore, these measures would be adopted if necessary during the Stage 2 decision-making process.” (ES-6)

There has been no credible study demonstrating that the EWA has mitigated the environmental impacts of water exports from the Bay-Delta. In fact, the Pelagic Organism Decline coincides with the five years in which the EWA has been in operation and in which winter exports have been increased to their highest levels on record. The Pelagic Organism Decline (POD) studies currently being carried out by the CALFED Interagency Ecological Program (IEP) have recently discovered that more smelt are being killed by the pumps in the winter and that this could be a significant contributor to the recent population declines. Although the SDIP DEIS/R proposes to rely on the EWA, it fails to examine how increased pumping in the winter will increase the killing of threatened and endangered fish in the winter.

Additionally, the EWA has faced chronic funding shortages in the past, has rarely been fully implemented, and faces a highly uncertain funding future. *See* Environmental Water Account Multi-Year Program Plan (Years 5-8), pages 16-17, *available at* www.calwater.ca.gov/ProgramPlans_2004/Environmental_Water_Account_Program_Plan_7-04.pdf (showing funding shortfalls).

A 2005 report by Environmental Defense entitled *Finding the Water: New Water Supply Opportunities to Revive the San Francisco Bay-Delta Ecosystem* states, “Unfortunately, due to a



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combination of insufficient operational assets and dwindling funding, early on the EWA was effectively robbed of some of its potential...The EWA has never received the amount of water anticipated by the CALFED plan. On average, only 29% of the expected 195,000 acre-feet of operational assets have been available...It is uncertain how the EWA will be funded in the future.”
http://www.environmentaldefense.org/documents/4898_FindingWater.pdf.

In its Environmental Assessment/Initial Study (EA/IS) of the “Intertie” proposal finalized in April 2005, BOR specifically noted that the continued existence of the Environmental Water Account is “speculative.”

For these reasons, the EWA is simply not reliable or adequate source of mitigation.

These and other critiques have been well documented in public hearings and workshops regarding the EWA. The DEIS/R must address all of the current information regarding the EWA, especially those documents made available to the public on-line from the December 2005 EWA workshop
<http://science.calwater.ca.gov/workshop/ewa.shtml> (as visited February 1, 2006).

In addition to the functional problems that have been identified with the EWA, funding of this program has relied on public subsidies in violation of the broadly accepted beneficiary-pays principle used in the CALFED process and other water infrastructure planning processes. That principle requires those who benefit directly or indirectly from a project to pay for its benefits. The EWA, however, effectively requires the public to pay water districts for water that under federal and state law already should be devoted to environmental needs; it provides payments for compliance with existing law.

Because the DEIS/R states that these measures would be carried out “if necessary” it is unclear that the SDIP would implement any mitigation measures whatsoever to address the impacts of its operational component. The DEIS/R must clearly define its mitigation measures and provide legally enforceable assurances that will be put in place to ensure that these mitigations will be carried out.

The DEIS/R fails to include any of the interim findings of the Pelagic Organism Decline (POD) studies

Ecosystem degradation poses a significant risk to the ability to convey SWP water reliably through the Bay Delta Estuary. Recently, data from the Department of Fish & Game’s Fall Mid Water Trawl signaled that there is a serious ecosystem collapse in the Estuary, with four important pelagic fish populations at historic lows, including the California and Federally Endangered Species Act listed Delta Smelt and the CVPIA-protected striped bass (*See California Department of Fish & Game Fall Mid Water Trawl Indices: <http://www.delta.dfg.ca.gov/data/mwt/charts.asp>;
http://www.acwa.com/issues/calfed/Smelt_10_20_05.doc*).



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As Secretary for Resources Mike Chrisman stated in an October 20, 2005 press release on the *Science-Based Framework to Guide Partnership, Evaluate Progress in Identifying Causes for Pelagic Organism Decline and Promote Future Stability*, "the threat facing the delta smelt could be a threat that impacts the entire health of the ecosystem. It is important that we do everything possible to find causes and provide recommendations to reverse the decline."

http://www.acwa.com/issues/calfed/Smelt_10_20_05.doc

In response, many agencies, including DWR are participating in an emergency science review called the 'Pelagic Organism Decline' (POD) investigation. One of the most recent reports from the POD investigations indicates that increased exports, which increase fish entrainment and decrease available habitat, may be a primary contributor to the fisheries declines ("Interagency Ecological Program Synthesis of 2005 Work to Evaluate the Pelagic Organism Decline (POD) in the Upper San Francisco Estuary," November 2005

http://science.calwater.ca.gov/pdf/workshops/IEP_POD_2005WorkSynthesis-draft_111405.pdf).

The central research to accomplish the goals outlined by Mr. Chrisman is currently being carried out by the Interagency Estuary Program (IEP) Pelagic Organism Decline (POD) studies. As the document above shows, DWR and BOR have increased IEP's budget by \$1.7 million to support research that will attempt to identify causes for the decline. (See Contra Costa Times article "Scientists Explore Ways to Rejuvenate Troubled Waterway" 1/22/06

<http://www.contracostatimes.com/mld/cctimes/living/science/13685412.htm>)

Although DWR and BOR have demonstrated their support for the work of these scientists through public statements and funding increases, and although they have said they will include the final results in their supplemental studies of the operation SDIP component they fail to include any of the initial findings in their analysis of the SDIP. Yet that information could be crucially important to an analysis of the first-stage decision.

The SDIP DEIS/R must include all of the information obtained by the IEP POD studies and disclose the possibility that decreases in exports may be necessary in order to reverse those declines.

While the pelagic species decline currently is the most salient of the Bay-Delta Estuary's environmental problems, it is not the only problem that might compel delivery reductions. Bay-Delta water currently does not meet federal or state water quality standards, and many other species are listed as threatened or endangered. Studies have concluded that there is in fact a relationship between Bay Delta water exports and fisheries declines (See *attached* Status and Protection of the San Francisco Bay- Sacramento-San Joaquin Delta Striped Bass Population, by Tomas Cannon).

The DEIS/R should analyze these issues and acknowledge that addressing these other environmental problems may require export reductions.



The DEIS/R fails to analyze impacts of physical/structural components upon Delta smelt

In addition to the impacts of increased exports, the installation and operation of the physical/structural components may have negative impacts upon the Delta environment, including the threatened Delta smelt. U.S. Fish & Game's Biological Opinion describes increased impacts to Delta smelt when the barrier at the head of Old River is in place. The DEIS/R does not adequately address how this impact will be mitigated or how operations of the barrier will be monitored and altered in order to minimize the impacts to the already endangered Delta smelt.

The DEIS/R fails to analyze impacts of increased or continued irrigation of drainage impaired lands

Increasing allowable export levels will result in increased water deliveries to CVP/SWP customers. A number of these customers use CVP/SWP water to irrigate drainage impaired lands. As discussed earlier, acreage of drainage-impaired lands in the Central Valley may total more than 1,361,000 total acres. The DEIR/S fails to analyze the environmental impacts of providing continued or additional water to these areas and therefore must be withdrawn.

The DEIS/R fails to analyze impacts on the Areas of Origin

The 2005 draft California Water Plan Update (CWPU) describes predicted changes in regional water demand in 2030 under three scenarios: current trends, less resource intensive, and more resource intensive. The CWPU predicts that as Southern California water demands decrease over the next thirty years under a less resource intensive scenario and demand in the Tulare Lake region decreases under all three scenarios, water demand in the Sacramento River area, North Coast and North Lahontan areas will increase under all three scenarios. This information demonstrates that more emphasis should be placed on protecting water supplies north of the Delta instead of moving it away from areas of predicted future demand.

Increasing the allowable export levels at CCF and therefore increasing the pressure to export water through the Delta and into the SWP/CVP aqueducts will cause significant impacts to Areas of Origin.

The DEIS/R does not adequately analyze the impacts to these Areas of Origin including groundwater, water temperature, water quality, flow changes and water dependent species on the Sacramento, American, Feather, and Trinity Rivers.



The DEIS/R fails to clearly explain the water quality impacts and impacts to species dependent on the Delta Estuary of the installation and operation of operable barriers

The SDIP DEIS/R fails to present an alternative that clearly improves water quality across the Delta in accordance with the CALFED ROD. The DEIS/R describes several of the negative impacts on water quality posed by the operational component of the SDIP including increased salinity in Delta channels and exports, and increased concentrations of dissolved organic carbon which could indirectly increase trihalomethanes as well as impacts on dissolved oxygen concentrations in the San Joaquin River downstream of the Stockton Deep Water Ship Channel (DEIS/R 5.3-1).

Unfortunately the DEIS/R fails to provide clarity describing the water quality impacts of the installation and operation of the operable barriers. The DEIS/R fails to include information exploring the wide range of possible water quality issues including, but not limited to, salinity and methylation of mercury in language the general public can easily understand.

The DEIS/R fails to adequately assess impacts to the environment from proposed water supply actions

The DEIS/R relies on a determination that hydrological or water supply conditions changes do not affect the environment (DEIS/R 5.1-32). This determination is without merit. Hydrologic changes including altered releases from upstream reservoirs affect salinity in the Delta, directly affecting X2, a key environmental protection. In addition, the relationship between Delta hydrological conditions, including inflow and outflow are the basis for water quality regulations, further indicating that hydrological changes directly affect water quality and environmental resources that depend on the Bay-Delta habitat.

In addition, the U.S. Fish & Wildlife Service's delta smelt OCAP Biological Opinion that this DEIR/S relies on acknowledges this relationship. The delta smelt BO states:

In addition to the degradation and loss of estuarine habitat, delta smelt have been increasingly subject to entrainment, upstream or reverse flows of waters in the Delta and San Joaquin River, and constriction of low salinity habitat to deep-water river channels of the interior Delta (Moyle *et al.* 1992). These adverse conditions are primarily a result of the steadily increasing proportion of river flow being diverted from the Delta by the Projects, and occasional droughts (Monroe and Kelly 1992). (page 120).

It is inappropriate to exclude analyses of the impacts to the environment and water quality resulting from hydrological changes due to the proposed project.



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The SDIP DEIS/R fails to present adequate information on the future of California's levees and their relationship to the proposed project

Significant risks to the ability of the SWP to export water from the Bay Delta Estuary are posed by the vulnerability of levees to flood, sea level rise and earthquake. Any project that would increase Bay-Delta exports, and thus induce greater reliance on Bay-Delta water, increases California's vulnerability to floods or earthquakes, but the DEIS/R does not disclose or discuss those risks.

Dr. Jeffery Mount from the University of California, Davis, recently completed a risk analysis estimating that there is a 64 percent probability that the Bay Delta Estuary will experience abrupt changes resulting from flooding or seismic activity within the next fifty years. These changes would permanently alter the hydrology, water quality and ecosystem of the Estuary. Furthermore, Dr. Mount found that there is no institutional capacity to address these permanent changes. (Subsidence, Seismicity and Sea Level Rise: Hell AND High Water in the Delta; presented by Dr. Jeffery Mount to the California Bay-Delta Authority October 14, 2004.

http://calwater.ca.gov/CBDA/AgendaItems_10-13-14-04/Presentation/Item_13_6_Subsidence_Seismicity_Sea_Level_Rise.pdf)

In recent testimony to a joint committee of the California Legislature, Lester Snow, Director of DWR, outlined the serious risks to SWP water supply availability associated with Bay Delta levee failure. In his presentation, "How a Delta Earthquake Could Devastate California's Economy," Director Snow stated that extended impacts to water availability would include:

- Using most optimistic projection, levee repairs will require at least 15 months. More realistically, the repairs will take much longer.
- Southern California water agencies are drawing from reserves. Some will last up to 36 months; others will go dry sooner.
- Extreme water conservation measures enacted
- Ground water basins drawn dangerously down – may lead to contamination
- Water conservation and transfer programs enacted

(Slide 16 of Lester Snow's presentation to the joint legislative committee, November 1, 2005 <http://www.publicaffairs.water.ca.gov/newsreleases/2005/11-01-05DeltaEarthquake.pdf>)

Director Snow further indicated that recovery of the conveyance through the Delta could be abandoned. (Slide 19 of Lester Snow's presentation). Director Snow told the Legislature that "... we also need to recognize the statewide impacts ...if Delta water supplies are reduced or eliminated as a result of a catastrophic failure of our levee system." (Quote taken from DWR Press Release, November 1, 2005, <http://www.publicaffairs.water.ca.gov/newsreleases/2005/11-01-05flood.cfm>)



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Accordingly, the SDIP DEIS/R should incorporate Director Snow's recommendation to recognize the risk to SWP reliability from flood, sea level rise and earthquake. Instead, The DEIS/R fails to analyze impacts from catastrophic failure in the Bay Delta Estuary from earthquake or flood on either the physical/structural components or the operational components. It also fails to adequately analyze the possible impacts on California levees from implementation of either the physical/structural components or the operational components.

Because of the costly investment being contemplated, the description of these risks must include an economic analysis that clearly shows the economic impacts of failure of the projects various components.

The DEIS/R was prepared prematurely before a Delta Visioning Process has been initiated or concluded

Due to the vulnerability of the Bay Delta Estuary, the largest estuary on the West Coast of the Americas, numerous stakeholders have agreed that a Delta Visioning Process must be initiated to develop a long-term vision and corresponding strategy to ensure the region's viability.

Because of this strong interest in creating a Delta Vision in October of 2005, Governor Schwarzenegger signed AB 1200 (Laird) which among other things requires the Department of Water Resources and the Department of Fish and Game to identify, evaluate, and comparatively rate the principal options available to implement certain objectives that relate to the Bay-Delta or the Sacramento and San Joaquin river systems. The bill requires the departments to jointly report to the Legislature and the Governor the results of their evaluations and comparative ratings, as specified, no later than January 1, 2008.

The visioning process required under AB 1200 may result in a profound re-evaluation of the various conflicting and overlapping services currently obtained from the Bay Delta.

Because DWR/BOR commissioned and released the SDIP DEIS/R before this two year process has been concluded, they have avoided essential policy information that may show that their proposal does not align with a consensus vision for the region. The DEIS/R should be withdrawn until a Delta Visioning Process which includes broad stakeholder input has been concluded and this information has been received by the Legislature and the Governor.

The DEIS/R relies heavily on environmental review documents of compromised validity

OCAP Biological Opinion:



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We strongly agree with the comments submitted by the Trinity County Board of Supervisors regarding the SDIP EIR/S's unacceptable reliance upon the "Biological Opinion (BO) on the Long-Term Central Valley Project (CVP) and State Water Project (SWP) Operations Criteria and Plan (OCAP)", which has been found faulty by an independent technical review team convened by the CALFED Bay-Delta Program whose findings were made public January 3, 2006.

We remind DWR and BOR that a report by the Department of Commerce's Inspector General also found the NMFS BO process violated government procedures, and concluded that a supervisor "circumvented key internal controls established to ensure the integrity of the biological opinion." The Inspector General's report quoted NOAA fisheries scientists saying that their jobs in the review process were cut short by superiors and that there was "a basic disconnect between the scientific analysis and the conclusion." (See attached report.)

In fact, in a letter to Senator Michael Machado sent in Spring 2005, the Director of the Department of Water Resources, the Director of the Department of Fish and Game, and the Chair of the State Water Resources Control Board admitted that the revised OCAP threatens "potential increased adverse impacts to salmon and steelhead in some Central Valley rivers" and that the "State anticipates increased impacts to winter-run and spring-run Chinook will occur as a result of the changes in water project operation and less stringent temperature compliance requirements." (See attached letter).

Now that the technical review team has presented its findings, it is unclear what steps are planned regarding a valid version of the BO. This information is critical to understanding the impacts of the SDIP on California's environment.

The DEIS/R also relies on a Biological Opinion regarding the impacts of the long-term contract renewals of the Operations, Criteria and Plan (OCAP) upon Delta smelt that is currently under litigation and appears to have several deficiencies.

http://www.fws.gov/sacramento/ea/news_releases/2004%20News%20Releases/Delta_Smelt_OCAP_NR.htm Among other problems, that BO, like the SDIP DEIS/R, relies heavily on the EWA for mitigation of environmental effects without considering the EWA's tenuous status and inadequate funding.

Deliverability Reliability Report:

The SDIP DEIS/R also references the DWR's 2002 State Water Project Deliverability Reliability Report (2002 Reliability Report) <http://swpdelivery.water.ca.gov/> (DEIS/R 9-5).

The 2002 Reliability Report is currently being revised and an update was released in draft form in November 2005. Both versions have serious deficiencies that, if left uncorrected, would dangerously overestimate DWR's future ability to deliver water and compound the risk that local planning decisions will be predicated on "paper" rather than deliverable water. For additional critiques of



these documents, please see PCL's *comments on public review draft of the State Water Project Delivery Reliability Report 2005* (attached).

Because of the well-documented flaws in these documents, the DEIS/R cannot simply rely on them as a substitute for independent analysis.

The DEIS/R does not provide clear information about the required amount of energy, the source of energy or the related impacts of additional energy generation, including project cost, energy availability, air quality and global climate change

Implementation of the operational components of this project would require a considerable amount of energy. . The South Delta pumps consume a huge amount of energy, as does the pumping of water over Southern California's mountain ranges. The physical/structural components will also require large amounts of energy. This increased energy consumption will have far reaching impacts on California's economy, energy availability and environment. . The DEIS/R fails to properly analyze those impacts.

Amount:

The DEIS/R is not clear as to the specific amount of energy required for either the physical/structural components or the operational components and is therefore inadequate. Of the physical components, it fails to analyze the energy demand of dredging operations. Of the operational components, it fails to describe the quantity of additional water used in its CALSIM II analysis of energy consumption. This failure is systemic to the document, as it both claims to allow increases of permitted capacity for diversions of up to twenty-seven percent yet claims to analyze increases of the "average amounts of water diverted for SWP and CVP contract deliveries and environmental uses from less than 1% to 3%" (ES-5).

This remarkable variation in numbers makes it impossible to appropriately assess the analysis of energy consumption in the DEIS/R. For example, if diversions increase from 6,800 cfs to 8,500 cfs (a twenty-seven percent increase from current allowable pumping rates) this would result in roughly an additional million acre feet per year pumped from the Delta into the SWP and CVP aqueducts. If this additional million acre feet of water were then pumped down the aqueduct only as far as Bakersfield it would still require a net energy input of 366 million kilowatt hours (see <http://www.energy.ca.gov/pier/iaw/industry/water.html>), substantially higher than the "47 million kilowatt-hours per year, or about 3.8% relative to the No Action Alternative" as predicted under the DEIS/R's CALSIM II modeling (page 7.5-7).

Also, the DEIS/R states that "changes in SWP electricity generation and consumption were assessed using the CALSIM II model" (7.5-3). It appears that this was the only model used for the majority of



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energy consumption modeling. As we have addressed in the comments below regarding CALSIM II, because of the limitations of CALSIM II the DEIS/R must disclose the limitations and cannot rely on this single model.

The DEIS/R must analyze the energy consumption based upon the total possible pumping rates. It should also include a comparison between energy consumed under the total allowable pumping rates (the twenty-seven percent increase), DWR/BOR's predicted pumping rates under SDIP, current pumping rates, and reduced pumping rates so as to provide decision makers with the ability to weigh the various energy consumption alternatives.

Source and Availability:

The State Water Project is already the single largest electrical energy user in California. The DEIS/R also fails to identify the source energy for the project, which makes it impossible to adequately analyze the related impacts. The energy sources for this project are important because the sources will affect the cost of this project and the impact of the project on the availability of energy in the various areas of California and on the greater Pacific Northwest energy grid. The sources will also determine the project's effect on and contribution to global climate change, as well as the project's impact on source area air quality. Without a clear description of the type and location of this energy source, the DEIS/R must be withdrawn.

Costs:

Not identifying an energy source obfuscates the operating costs of the operable barrier facilities and intensified export operations, essential information for the DWR/BOR officials tasked with deciding between the various project alternatives as well as the larger community as they weigh various strategies for achieving cost-effective water supply reliability. The cost of operation and the economic feasibility of this project will be based in part on the costs of energy which have fluctuated substantially in the past and will continue to fluctuate. Increased energy costs could result in much higher operations cost, which would then increase the cost of delivered water. The claimed benefits of this project would be greatly reduced if the price of water from the facility became prohibitively expensive. A discussion of the impact on energy costs and energy availability must be included in the DEIS/R and made available to the community in order for the full impacts on California and the Pacific Northwest to be understood prior to a decision on this project.

Significance Thresholds:

The DEIS/EIR disregards the significance of the immense energy demands, incorrectly comparing them to the total SWP operations energy requirements.

The impacts of the energy demand for operational components, which as noted above, may be more than 366 million kilowatt hours per year, are dismissed in the DEIS/R as insignificant and not requiring mitigation, because they do not increase electricity demand by more than ten percent above the current SWP net energy requirements. Arbitrarily selecting ten percent to determine significance



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instead of utilizing ecologically-based metrics violates the basic standards of the EIR/S process. This threshold is especially inadequate considering that the SWP uses an average of five million kilowatt hours per year, two to three percent of all the electricity consumed in California <http://www.energy.ca.gov/pier/iaw/industry/water.html>. If every proposed action creating 366 million kilowatt hours of new energy demand were deemed insignificant, environmental review might no longer address energy impacts at all.

Increased Energy Use and Air Quality:

The production and consumption of energy has clear and undeniable impacts on the environment and human health. Decreased air quality created by power plants in California has had a documented deleterious health effect on California's residents. After several pages describing proposed measures to mitigate for air quality impacts from the physical/structural components, the DEIS/R summarily dismisses impacts from the operational component, which again, may require hundreds of millions of kilowatt hours per year:

"Increased diversions would result in the emission of criteria pollutants well below the established thresholds of significance. Therefore, impacts on air quality associated with the operational component would be less than significant. No mitigation is required." (5.9-15)

As the amount, source type and source location of required energy are not clearly described in the DEIS/R it is impossible to analyze whether or not the emissions from increased diversions will in fact exceed the significance criteria. Considering the severe air quality problems in many areas of the state, especially the Central Valley, it is very likely that they would. The DEIS/R must evaluate how the energy required for the physical/structural components and the operational components of the project will affect statewide and local air quality and propose mitigation measures for the affected communities.

Increased Energy Use and Global Climate Change:

Because the DEIR/S has made no indication that DWR or BOR would seek out alternative, environmentally preferable energy sources, it is safe to assume that the additional energy required for the operational and physical/structural components of this project will most likely come from power plants and hydropower, both of which are related to global climate change.

Power plants have been identified as some of the largest sources of CO₂, the leading contributor to global climate change.

The effect of climate change upon California's water supply will impact hydropower energy production. In June 2005, the California Energy Commission released a report entitled, *Potential Changes in Hydropower Production from Global Climate Change in California and the Western*



*United States.*³ The report confirms that in dry periods, hydropower production capacity will decrease. The DEIS/R must include an analysis of this report, specifically addressing how climate change will affect the energy sources for all of the SDIP components and the reliability and cost of that water supply.

The DEIS/R must evaluate how the energy required for the physical/structural components and the operational components of the project will be affected by and contribute to global climate change. It must also include impacts on the energy grid for California and the Pacific Northwest and how the increased energy demand from the project may contribute to global climate change. Any increase in CO2 emissions from increases in energy production must be fully mitigated. Full implementation of reduced water pumping from the Bay-Delta alternative could reduce CO2 emissions below current levels by reducing power generation and must be included in this analysis.

The DEIS/R fails to provide the public with an analysis of planned operations under the anticipated effects of climate change

The SDIP DEIS/R fails to discuss and incorporate known and recognized information regarding the substantial adverse impacts climate change will have upon California's water supply. In fact, the DEIS/R bases nearly all of the predictions in its several hundred pages of documentation upon a fundamentally flawed and outdated assumption; that environmental conditions in California have been static and will continue to be static in the future. The scientific community knows that assumption to be deeply flawed, and that flaw infects DWR's entire analysis. DWR has in fact acknowledged that climate change will affect the way water can be managed and that climate change will alter the impacts of water management. The recently completed California Water Plan Update 2005 states:

"Managing water resources with climate change could prove different than managing for historical climate variability because climate change could produce hydrologic conditions, variability, and extremes that are different from what current water systems were designed to manage; may occur too rapidly to allow sufficient time and information to permit managers to respond appropriately; and may require special efforts or plans to protect against surprises or uncertainties." (Page 4-32)

This omission of climate change information from the DEIS/R is particularly troubling because DWR has committed to including such information in its documentation regarding statewide water policies. Yet, DWR has not acted uniformly in its fulfillment of that promise, creating the impression that the department withholds climate change research where the findings do not support the aims

³California Energy Commission Potential Changes in Hydropower Production from Global Climate Change in California and the Western United States - Consultant Report, CEC publication # CEC-700-2005-010
http://www.energy.ca.gov/2005_energypolicy/documents/index.html#062105



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and goals of its proposals or where responding prudently to the findings of those studies would require modification of current operations.

In prior documents DWR has acknowledged that a primary factor in determining reliability of State Water Project supplies is the availability of water in source areas. In 2002, DWR's first State Water Project Deliverability Reliability Report (reliability report) recognized that climate change could significantly alter availability of water in source areas. The 2002 report stated that information on climate change impacts to California was being developed in the California Water Plan Update process, and that such information would be incorporated into the 2005 reliability report.

The April 7, 2005 draft of the Water Plan Update stated:

California's relies on snowpack as its largest means of annual water storage. Runoff from the Sierra Nevada mountains during April through July of each year averages 14 million acre-feet and comes primarily from snowmelt. Computer modeling of global climate change scenarios predict significant future reductions in the Sierra snowpack. A reduced snowpack will reduce the total water storage for the state. Figure 4-7 (Model simulation of potential changes in snowpack during the 21st Century) shows a 52 percent reduction in the annual April through July runoff for a 2.1 degree C (3.8 F) of warming, well within the 1.4 to 5.8 degree C (2.5–10.4 F) range predicted by global climate models for this century.

Changes in the timing of snowfall and snowmelt, as a result of climate change, may make it more difficult to refill reservoir flood control space during late spring and early summer, potentially reducing the amount of surface water available during the dry season. Changes in reservoir levels also affect lake recreation, hydroelectric power production, and fish habitat by altering water temperatures and quality. Reductions in snowpack may require changes in the operation of California's water systems and infrastructure, and increase the value of additional flood control space in reservoirs.

(Public Review Draft California Water Plan Update, April 7, 2005, Vol. 4, page 4-27)

Despite the commitments made in the 2002 Reliability Report, the information above is not included in the recent draft of the 2005 Delivery Reliability Report. Nor is it included in the current SDIP DEIS/R.

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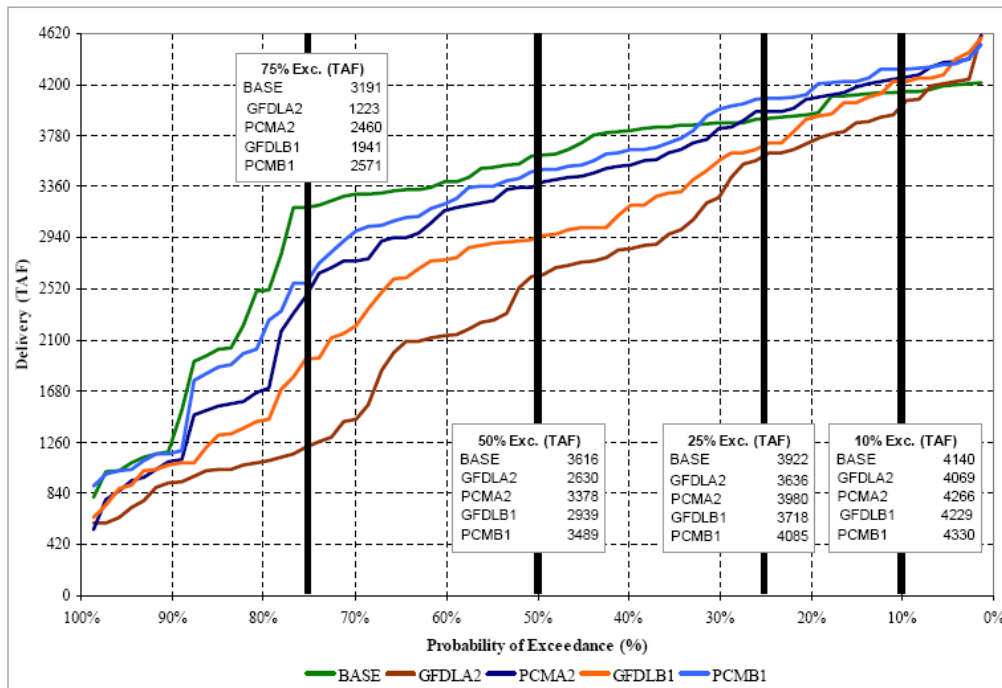


Figure 7. Exceedance probability plot of SWP Annual Deliveries under climate change scenarios PCM B1-A2 and GFDL B1-A2 for 2070-2099

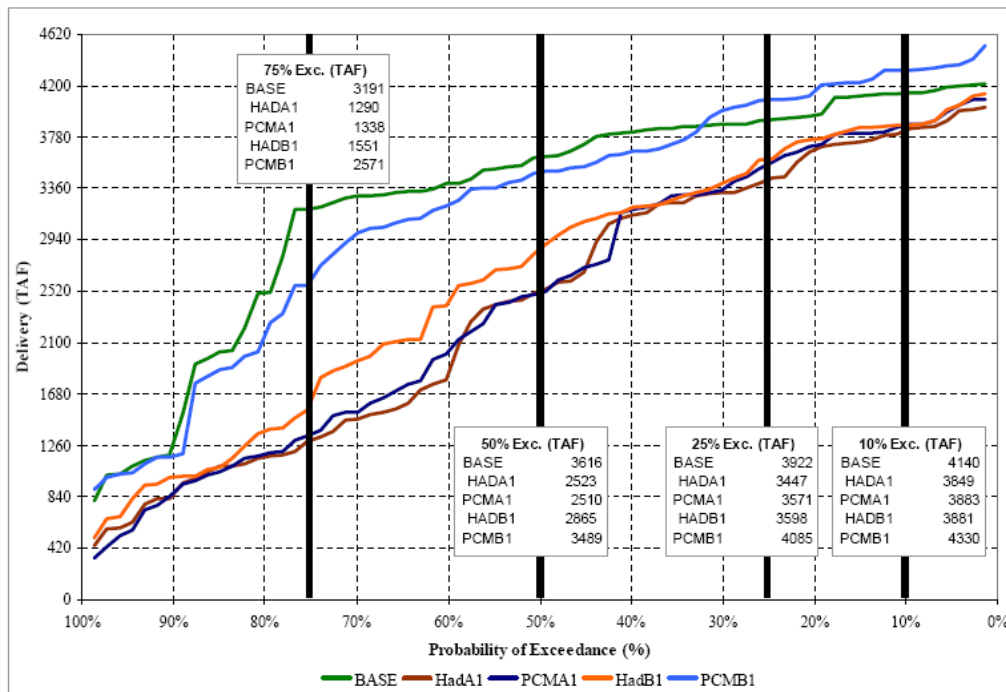


Figure 8. Exceedance probability plot of SWP Annual Deliveries under climate change scenarios PCM B1-A1 and HadCM3 B1-A1 for 2070-2099

(California Energy Commission, draft Predictions of Climate Change Impacts on California Water Resources Using CalSim-II: A Technical Note, December 2005 page 14 & 15

<http://www.energy.ca.gov/2005publications/CEC-500-2005-200/CEC-500-2005-200-SD.PDF>)

Since the release of the Draft Reliability Report 2002, a large amount of analysis on potential climate change impacts on water management in California has been published. Estimates of the deliveries from the SWP under climate change conditions have been modeled and analyzed. The California Energy Commission recently completed such an analysis in their report, “Predictions of Climate Change Impacts on California Water Resources Using CalSim-II: A Technical Note” (CEC report); Katherine Hayhoe et al., *Emissions Pathways, Climate Change, and Impacts on California* (2004) at <http://www.fypower.org/pdf/NatAcadSciClimateChange.pdf>.

The CEC report concluded that modeling, “results show great negative impacts on California hydrology and water resources associated with most of climate change scenarios analyzed (only one scenario PCM run under B1 emission scenarios show just mild negative impacts).” (page 4)

This information demonstrates the range of outcomes that state and local decision makers must be prepared to encounter and address. The CEC’s important assessment of the delivery capability of the SWP should be included in the SDIP DEIS/R.



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We also understand that DWR may have done its own analysis of the impacts of climate change on SWP deliveries. On the official State of California Climate Change Portal (http://www.climatechange.ca.gov/climate_action_team/reports/index.html) there is a reference to a study done by DWR. However unlike all of the other references, no results are included. The SDIP DEIS/R should include the results of DWR's own analysis.

If approved, the SDIP will have a tremendous effect on water supplies across California and will be relied upon by local planners when making infrastructure investments and development decisions long before actual construction of the project stages has begun. Because of the failure to truly separate the project, these planning decisions based upon the SDIP will occur regardless of whether a "Stage 2" decision has been formally reached. The decisions made today about where to place infrastructure and where to approve development are long term commitments that will have impacts for hundreds of years into the future. If local decisions are predicated on information from DWR that does not fully acknowledge potential constraints on DWR deliveries, they run the risk of producing excessive groundwater pumping and a host of other detrimental environmental consequences (See *Planning and Conservation League*, 83 Cal. App. 4th at p. 915).

Additionally, any analysis of SDIP's value and impacts must consider the environmental conditions under which SDIP actually will operate. By positing an alternate world in which climate change does not exist, and analyzing only SDIP's utility within and effects upon that world, DWR and BOR are depriving both themselves and the public of information crucial to evaluating SDIP.

Basing the SDIP DEIS/R on an assumption of static climate conditions create financial risks for the state. If approved, funds will be committed to build the infrastructure described in the SDIP based on expectations generated or encouraged by this DEIS/R. Many other decisions about other water projects and operations upriver of the Delta will likely follow. As with any financial investment, the risks associated with these investments must be fully disclosed to those who invest in that infrastructure or in the developments supported by that infrastructure. As the state has learned in the past with levee liability, there is a potential risk that the State may be held accountable for decisions and investments made by others on the basis of false representation of the State's ability to protect and guarantee those investments.

In addition to the changes in quantity of deliverable water under climate change, there are a host of other related climate change impacts such as variations in water temperature that will have clear effects on the California environment, especially upon endangered and threatened fish species. Stresses that might have been withstood under static climate conditions will not be met with the same resilience. The impacts of SDIP on the Californian environment will be intensified under climate change. The biological impacts of the project must be analyzed based upon the additional stresses that the California environment will be undergoing under climate change scenarios.



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Most climate change models predict sea level changes that will have ripple affects deep into the Delta. This calls into question the viability of the physical/structural components of this proposal. The DEIS/R must discuss whether the operable barriers would fulfill their stated purpose, how their performance would be modified, and how they would affect the surrounding hydrology under climate change scenarios that predict periodic or permanent increases in mean sea level. It must also describe what reasonably foreseeable actions might be carried out to ensure that the operable barriers function properly under these new conditions and what environmental impacts may be expected from those actions.

This DEIS/R fails to discuss and incorporate known and recognized information regarding the substantial adverse impacts climate change will have upon California's water supply. It therefore must be withdrawn and if re-submitted, must provide accurate, realistic information that fully discloses the foreseeable uncertainty and risks presented by climate change.

The DEIS/R may significantly underestimate the increase in diversions which could be facilitated by SDIP

The DEIS/R relies on a limited analysis based entirely on modeling to estimate increases in water diversions from the Bay Delta Estuary resulting from the SDIP. The DEIS/R indicates that SDIP would result in a limited amount of additional water, from 119 taf to 290 taf. However, in the past, DWR and BOR have indicated that other projects would result in limited export increases, and then as those projects were implemented, diversions turned out to be much higher than anticipated.

For example, in the past few years, exports of Article 21 water have increased dramatically. Fisheries agencies have indicated that this increase was unexpected. The recent biological opinions that this project relies on include statements that increases in Article 21 water will be insignificant. The DEIS/R indicates that Article 21 water exports would increase only marginally with the increase in export capacity. The baseline for this assumption is unclear. At the same time, the Draft Delivery Reliability Report indicates up to 1 maf of Article 21 water could be exported by the SWP. Given the impact from the past, unforeseen high Article 21 water exports, and the underestimation of those deliveries impacts, it is imperative that operational conditions and export expectations are explicitly and accurately reported in the final DEIS/R. The same is true of federal 215 water, transfer water and other additional water exported from the Bay-Delta. BOR and DWR must clarify the baseline assumptions for Article 21, federal 215 water, water transfers and project deliveries, and explicitly state the expected total exports and expected increases of each type and the cumulative total of additional water exports from the Bay-Delta. In addition, DWR must indicate where that water additional water originated from, and what beneficial uses, including environmental uses, the water had previously utilized for.



Lastly, an adequate DEIS/R must specify the enforceable assurances that will limit the increases pumping to the amounts analyzed.

The DEIS/R inappropriately relies on CALSIM II

The DEIR/S supports its analysis of water availability, environmental impact, export potential and project effectiveness conclusions almost entirely on the basis of modeling. While the models DWR and BOR have used may be useful tools, this complete dependence upon modeling is inappropriate, because the models the agencies have used are highly uncertain tools. CALSIM II, for example, while a sophisticated model, has been criticized by a panel of expert reviewers for several weaknesses, including its lack of amenability to proper calibration. (See A. Close, *et al.*, *A Strategic Review of CALSIM II and its Use for Water Planning, Management and Operations in Central California* submitted to California Bay Delta Authority Science Program, December 4, 2003.

In addition, CalSim II assumes foresight on the part of planners, and thus assumes that they will not take actions that will result in later violations of environmental standards or other operating constraints. This assumption can lead to great underestimation of environmental impacts, for in the real world operators do not have such foresight and thus can make decisions without realizing the consequences those decisions ultimately will have.

Furthermore a recent analysis has revealed additional flaws in the statistical basis for CALSIM II. ("Analysis of CALSIM's Statistical Basis," by Arve Sjøvold, December 28, 2004, previously provided to DWR).

Models' predictions also can be no more accurate than their input data, and those input data depend upon numerous assumptions about future conditions. Here, those assumptions may be wrong; for example, the DEIS/R's assumption that future water flow patterns will be similar to those that have occurred in the past is inconsistent with the ample literature on the substantial effects of global warming on California water flows (see comments on incorporating climate change above).

The DEIR/S should, but does not, acknowledge and come to terms with these limitations (not only of CalSim, but also of the other models employed), and explain their implications for the environmental analysis. Similarly, it should provide some sense of the error ranges of the modeled predictions. Absent such information, the DEIR/S's reliance on modeling does not meet the requirements of applicable law.

The DEIS/R fails to adequately assess growth inducing impacts



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The DEIS/R states that each of the proposed project alternatives would result in growth inducing impacts. The DEIR/S then fails to include an analysis of those growth inducing impacts. Instead, the DEIS/R states, “The impacts of this growth, if any, would be analyzed in detail in either General Plan EIRs for the local justifications or in the project-level CEQA compliance documents” (DEIS/R 9-1). Impacts resulting for growth induced by the increased availability of water due to the SDIP must be analyzed, fully disclosed and mitigated should this project move forward. It is inappropriate for DWR and BOR to pass through responsibility of accounting for and mitigating these impacts. In addition, there are statewide impacts from growth inducement that local agencies are ill-suited to analyze or mitigate. For instance, water reliability for existing residents would be decreased as water exported for the Bay-Delta increases.

The DEIS/R fails to analyze the full growth inducing impacts of the SDIP project by excluding increases in export and delivery of Article 21 water. The DEIS/R states, “Article 21 water was not included in the growth analysis because of the uncertainty and variability of deliveries” (DEIS/R 9-8). PCL agrees that growth should not be based on Article 21 water. However, in the DWR’s Draft 2005 Delivery Reliability Report, DWR recommends that local water agencies include Article 21 water in their table of average annual values (Draft 2005 Delivery Reliability Report pages 28-31). The average annual values tables are used by local agencies to determine water availability for growth. Therefore, DWR is inconsistent. When advising locals for planning to accommodate growth, DWR recommends accounting for Article 21 water. When analyzing the impacts of DWR’s own project, DWR states that Article 21 water is too variable and uncertain to analyze. Since DWR has recommended that locals include Article 21 water in water accounting that will be the basis of growth, DWR must also analyze the growth inducing impacts of delivering that water.

The DEIS/S fails to adequately account for cumulative impacts

As noted in the DEIS/R, the SDIP is part of package of projects that DWR and BOR are moving forward as part of the OCAP. However, the DEIS/R relies on the questionable and inappropriately developed OCAP Biological Opinions for smelt and salmon. As stated above, the NOAA Biological Opinion as been reviewed by both the U.S. Inspector General and the scientific peer review panel coordinated by the California Bay Delta Authority. Both reviews determined that the NOAA OCAP BO, and the therefore the SDIP BA were significantly flawed. The CBDA peer review found that NOAA did not use the best available science in determining the impacts of OCAP to fisheries. It is inappropriate for DWR and BOR to rely on the OCAP BO to determine cumulative impacts when those agencies are aware of the significant flaws and questionable conclusions of those documents.

The DEIR/S is deficient because it does not answer, in a scientifically credible and independently peer-reviewed manner the central question, “How much water can be diverted from the Bay Delta



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Estuary, and under what conditions while maintaining a healthy ecosystem?"

The Pelagic Organism Decline Team has established that the decline of pelagic species in the Delta Estuary is most likely due to a combination on three factors, water project operations (including pumping, entrainment, and predation at Clifton Court Forebay, reverse flows, and effects on the food chain), toxics, and non-native species. Toxics are related to existing and proposed increased pumping operations because some of the water diverted from the Delta Estuary is used to irrigate contaminated lands and the polluted drainage from those lands then returns to the Estuary.

Furthermore the existing operations, including reverse flows caused by the pumping, concentrate the toxics in certain areas of the Estuary.

The prevalence and distribution of non-native species may also be increased by water project operations. Sucking so much water that the saline – freshwater interface is moved closer to the pumps could create conditions more favorable to non-native species.

An adequate Draft EIR/S must determine how much water can be diverted while maintaining a healthy ecosystem. It could well be that the exiting levels of pumping need to be cut back and feasible alternatives such as water conservation and recycling need to be implemented to make up the difference.

This question is so important that any determinations need to be subject to rigorous peer review by independent scientists.

We also request that the comment period be extended another 45 days in order to allow adequate time to review the several volumes of this proposal.

Sincerely,

Mindy McIntyre
Water Program Manager
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Attachments submitted via email and US mail

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